22 The role of hospitals in delivering early intervention services following traumatic events

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Any attempt to reconstruct early psychological intervention services after traumatic events must include a consideration of how hospitals might provide this essential service. Many of the injuries for which patients seek hospital care result from events (e.g., assault, motor vehicle collisions, other accidents) that may be experienced as life threatening and may elicit significant emotional distress. Other medical stressors (e.g. life-threatening illness, myocardial infarction, burns, invasive procedures) may also exact a serious psychological toll. In short, hospitals are full of patients whose experiences can be conceptualized as psychological trauma, making this setting a vital 'capture site' for those at risk for a broad range of trauma-related psychosocial problems. In this chapter, we specifically focus on traumatic injury as an example of a traumatic medical stressor for which early intervention may be efficacious. We discuss the negative outcomes associated with traumatic injury, note limitations of psychosocial care in most emergency medical settings and propose a model of hospital-based early intervention services following traumatic events.

Negative sequelae of traumatic injury

Traumatic events commonly associated with injury may lead to a variety of negative psychological and behavioural outcomes. In general, high rates of PTSD (Talbert *et al.*, 1995) and depression (Shalev *et al.*, 1998) are found among trauma victims in emergency medical settings. PTSD is highly prevalent in survivors of general criminal assault (Brewin *et al.*, 1999), sexual assault (Rothbaum *et al.*, 1992; Resnick *et al.*, 1999), domestic violence (Astin *et al.*, 1993), accidental injury (Scotti *et al.*, 1995), motor vehicle accidents (MVA; Blanchard and Hickling, 1997), and sudden unexpected bereavement (Zisook *et al.*, 1998). Survivors of MVA and interpersonal violence also commonly experience other anxiety disorders, depression and substance abuse (Resnick *et al.*, 1993; Taylor and Koch, 1995). In addition, many individuals receiving injury-related medical care have psychological problems that predate their hospital visit (Whetsell *et al.*, 1989), including substance abuse and depression (Shalev *et al.*, 1998).

Trauma-related psychological symptoms are likely to have broad effects on ability to function post-trauma. Return to productive roles is not definitively predicted by severity of injury or physical disability, suggesting that psychological factors play a significant role (Holbrook *et al.*, 1994; MacKenzie *et al.*, 1998; Schnyder *et al.*, 1999). Indeed, psychological problems in the aftermath of traumatic injury have been related to functional impairments and diminished quality of life

(Landsman *et al.*, 1990). It is also important to note that trauma victims seen in emergency medical settings may be at risk for future re-traumatization (Sims *et al.*, 1989; Cobb *et al.*, 1992). Finally, traumatic events precipitating emergency medical care may also adversely affect social functioning of patients and their families (Solursh, 1990; Watkins *et al.*, 1996).

Limitations of existing services

Post-injury psychological care is limited in most emergency medical settings in the USA and other countries worldwide, although there may be more incentives to develop such services in countries with publicly-funded healthcare systems. In general, systematic screening for psychosocial problems is not standard practice thus limiting recognition of impaired patients (Whetsell *et al.*, 1989). For example, rates of identification and referral for substance abuse are low compared with prevalence rates (Lowenstein *et al.*, 1990). Opportunities are missed to identify and treat those at risk for later traumatic stress-related impairment (Green *et al.*, 1993). For instance, patients are not currently screened for acute stress disorder (ASD) and receive little information about the trajectory of emotional recovery. Physicians and nurses have little time to provide health education and, although they are a critical source of support their services are usually terminated upon hospital discharge. Psychiatric and social work support is provided to a small minority of patients, and is usually limited to acute care. Few hospitals offer trauma survivor support groups, leaving patients largely on their own once actual life threat has been averted.

Toward a model of psychosocial trauma care in the hospital setting

Many patients seen in hospital emergency medicine settings will develop PTSD, and other psychological and behavioural problems, with real impact on their ability to lead productive lives. In this context, what is required is a 'population-based' model of care. In such a model, all patients receive some level of psychological assessment and intervention, however brief, with the goals of prevention and matching level of care with level of need. While further research is needed to assess the utility of a population-based model, this approach is consistent with common sense, practical patient care.

Provision of population-based preventive psychological care places design constraints on these services. Such services must be *brief*, so that they can be delivered to large numbers of patients. Brevity is also warranted given that immediate post-trauma distress will remit naturally for many patients and may not require more than limited formal help (Blanchard *et al.*, 1995). Many brief interventions may need to be delivered by health care providers indigenous to hospital settings (e.g. nurses, physicians), rather than mental health specialists. Health care professionals provide much emotional support and advice, and their methods may be improved in ways that fit within existing roles. More intensive preventive services, delivered by specially-trained personnel, will need to be made available to patients based upon level of risk for continuing adjustment and coping difficulties. The financial and staffing constraints under which most hospital emergency departments operate will necessitate a staged, multi-modal approach. Below, we describe the key components of such a service, including screening, education, referral and outreach, and targeted treatment modules, and suggest clinical pathways for combining these elements of care.

Screening

Early identification of those at risk for negative outcomes following trauma can facilitate prevention, referral and treatment. Screening for current psychopathology and risk factors for future

impairment can be accomplished via brief semi-structured interviews and standardized assessment questionnaires (see Brewin *et al.*, Chapter 12). For example, acute stress symptoms and disorder can be assessed via the Stanford Acute Stress Reaction Questionnaire (SASRQ, Cardeña *et al.*, 2000) or the Acute Stress Disorder Interview/Scale (Bryant *et al.*, 1998b, 2000). The Alcohol Use Disorders Identification Test (Saunders *et al.*, 1993; Cherpitel, 1998) can be used to screen for alcohol problems. Screening should also address past and current psychiatric and substance use problems and treatment, prior trauma exposure, pre-injury psychosocial stressors (Schnyder *et al.*, 2000) and existing social support. Event-related risk factors should also be assessed, including exposure to death, perception of life-threat and peri-traumatic dissociation. Especially important are acute levels of traumatic stress symptoms, which predict chronic problems; for example, more than three-quarters of MVA patients diagnosed with ASD will have chronic PTSD at 6 months post-trauma (Bryant and Harvey, 2000).

Patient education

Education for patients and their families may help normalize common reactions to trauma, improve coping, enhance self-care, facilitate recognition of significant problems, and increase knowledge of and access to services. First, patients should be reassured about common reactions to traumatic experiences, and advised regarding positive and problematic forms of coping with these. Information about social support and stress management is particularly important. Secondly, opportunities to discuss emotional concerns in individual, family or group meetings can enable patients to reflect on what has happened. Thirdly, patients may benefit from increased knowledge of health issues, including health care behaviour, medications and their side effects, pain management, wound care and relevant medical procedures. Fourthly, education regarding indicators of clinical impairment is vital; signs and symptoms of PTSD, anxiety, depression, substance use disorders, and other difficulties should be explained. Finally, patients will need information about financial, mental health, rehabilitation, legal and other services that may be available, as well as education about common obstacles to pursuing needed services (see below).

Referral and outreach

Emergency medical settings are in an excellent position to make referrals for appropriate follow-up services. Often, this opportunity is lost due to a number of obstacles. First, health care providers do little to assess patients' attitudes about actively seeking other forms of help than those that are routinely offered. Embarrassment, fear of stigmatization and cultural norms may all limit motivation to pursue a referral. Discussing these attitudes and employing motivational interviewing techniques (Rollnick *et al.*, 1992) may enable health care providers to increase rates of referral acceptance. Secondly, patients may not pursue a mental health referral early in the recovery process because they are coping with the practical problems caused by the experience, do not feel ready to face the trauma, do not recognize the need for services or are not yet experiencing significant impairment. Follow-up, re-screening and repeated referral may help ensure delivery of referral information at a time when patients may be better able to take advantage of it.

Brief problem-specific treatments

Relatively brief interventions targeting specific post-trauma problems may significantly improve outcomes of emergency medical treatment. Many problems (e.g., substance abuse, depression)

are co-morbid with PTSD and may remit once PTSD is successfully treated (Foa *et al.*, 1995; Bryant *et al.*, 1998a). However, these problems may also occur independently of PTSD, suggesting that help and treatment targeting multiple problem areas is sometimes indicated.

It is a challenge to develop empirically supported brief interventions and systems of matching patient to preventive treatment (Bisson *et al.*, 2000; Raphael and Wilson, 2000). Research suggests that relatively brief hospital-based interventions may effectively prevent PTSD in some subgroups of trauma patients. Several controlled trials have suggested that brief (i.e. four or five sessions) cognitive behavioural treatments, comprised of education, breathing training/relaxation, imaginal and *in vivo* exposure, and cognitive restructuring, delivered within weeks of the traumatic event, can prevent PTSD in a number of survivors of sexual and non-sexual assault (Foa *et al.*, 1995) MVAs, and industrial accidents (Bryant *et al.*, 1998a, 1999). Studies have also demonstrated the utility of alcohol consultation and referral services for trauma centre patients (Chafetz *et al.*, 1962, Fuller *et al.*, 1995). Brief intervention with patients hospitalized for injury has been found to reduce alcohol consumption in those with existing alcohol problems (Gentilello *et al.*, 1999). Controlled trials of brief early intervention services targeted at other important trauma sequelae (e.g. problems returning to work, depression, family problems, trauma recidivism, bereavement-related problems) remain to be conducted.

Matching patient to level of care

Services will need to be delivered in a stepped form, whereby patients are matched to type and level of care, depending on initial distress and risk for developing chronic problems. Treatment matching is complicated by the fact that there are various clinical pathways through the emergency medical care setting. Some patients are treated in the emergency room (ER) and released within hours. Others are seen in the ER and admitted to an in-patient trauma ward for acute treatment and recovery. In either case, patients may or may not be followed up by a specialist or primary care physician as physical recovery proceeds. Given that each contact with the health care system affords an opportunity to screen for impairment and intervene appropriately, co-ordinating assessment, referral and treatment services across settings is a necessity.

For patients treated and released from the ER, brief services are essential. Such services should include screening for existing psychopathology and for risk factors for future impairment, education and provision of referral information. Depending on data collected during screening, targeted brief intervention for existing problems (e.g. alcohol abuse) may be delivered in the ER setting. Priming patients to follow-up on referrals may be accomplished via motivational interviewing and attempts to pre-empt avoidance of needed services. Obtaining detailed contact information may facilitate follow-up and outreach. For patients admitted to the in-patient trauma ward, there is an opportunity for more systematic assessment and for introduction of more comprehensive educational and intervention modules.

For both 'treat and release', and hospitalized patients, follow-up appointments represent opportunities for reassessment, referral and treatment. Therefore, communication among emergency care providers, specialists and primary care providers is imperative. ER and trauma ward providers can share concerns regarding existing problems and/or risk factors for future impairment with providers of follow-up care to facilitate continuity of assessment. During follow-up appointments it will be important to screen for PTSD and other anxiety disorders, depression, alcohol and substance abuse, problems with return to work and other productive roles, adherence to medication regimens and other appointments, and potential for re-traumatization. At this point, referral to appropriate treatment may be indicated.

System change

Traditionally, medical treatment and psychological services have been delivered separately, in different settings and by helpers of different disciplines. A rethinking of this institutional form of mind-body dualism is warranted (Strosahl, 1996). Furthermore, both medical and psychological services are characterized by a relatively limited focus on prevention, despite the obvious potential benefits. System change is necessary if population-based integrated, preventive trauma services are to be implemented.

Those developing early interventions should think ahead about the issue of system influence and dissemination. It will be important that interventions focusing on prevention of PTSD be designed in such a way that they can be easily integrated with services targeting other key problems encountered in the hospital setting. Furthermore, they should be developed in partnership with medical professionals and other members of multidisciplinary care teams. Collaborative design will be important if innovative services are to be adopted by the practitioners who must deliver them.

In order to shape development of evidence-based early intervention services in the hospital setting, a number of crucial issues must be investigated. First, more prospective studies following emergency medicine patients are required to better establish rates of a range of chronic trauma-related problems. Secondly, effective interventions must be developed to treat those problems. Thirdly, there must be a focus on the large number of patients with sub-threshold traumatic stress symptoms, many of whom experience significant impairment in occupational and social functioning. Fourthly, it is important to learn more about patients' primary concerns over the recovery trajectory and their openness to various potential services. Preliminary work suggests that the majority of injured patients value the opportunity to undergo a comprehensive psychosocial assessment during hospitalization, despite any inconvenience or distress caused by the process (Ruzek and Zatzick, 2000). Fifthly, it is vital to determine what hospital-based health care providers consider to be the important issues related to development and delivery of preventive psychosocial services.

Finally, it must be determined whether interventions delivered by clinical research teams in carefully controlled efficacy studies can be generalized to hospital settings. While such studies are necessary in developing early interventions, they will not establish the effectiveness of such services when they are delivered to the unselected population seeking care in busy, understaffed hospitals. For example, evaluations of early intervention should be developed that address the comorbidity of problems encountered in the emergency medicine setting. Studies of prevention of PTSD that exclude substance abusers will be importantly limited in terms of their generalizability. Alcohol and substance abuse are highly prevalent among patients admitted to surgical trauma units (Soderstrom *et al.*, 1997). Many patients requiring early intervention to prevent development of PTSD will have established patterns of substance abuse, so that early intervention services must tackle both sets of problems, in serial or integrated fashion.

Conclusions

Current evidence supports the following propositions:

- significant numbers of trauma survivors seek hospital medical services;
- many hospital patients will develop PTSD or other post-trauma problems;
- little systematic preventive care is delivered to these patients;
- it is possible to identify patients who are at risk for psychological problems.

Evidence, although limited, also supports the efficacy of early intervention in preventing PTSD, reducing alcohol consumption and increasing participation in substance abuse counselling. Studies are needed to investigate the role of early intervention in reducing other trauma-related difficulties.

Psychosocial trauma care in the hospital setting will need to be brief and largely capable of implementation by non-specialists. It will need to combine identification of patients at risk for PTSD and other problems, education of patient and family, delivery of brief interventions for trauma-related problems, referral and outreach. Research is necessary to design and evaluate these components of care. Methods of prevention of PTSD must be developed that are compatible with the need in hospitals to also intervene with other psychosocial problems, such as substance abuse, depression and problems with return to work, and that address the co-morbid nature of many post-trauma problems. Helping approaches must also be acceptable to patients and their families, which means that research investigating their needs and preferences will be important. Finally, if the prevailing cultures of hospital care are to be modified to include early intervention services for trauma survivors, it will be important that traumatic stress specialists form collaborative working relationships with emergency medicine practitioners sensitive to these issues.

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